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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,343	11/19/2001	Yoshitaka Sasaki	111159	8520

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

KLIMOWICZ, WILLIAM JOSEPH

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 08/09/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

7

Office Action Summary

Application No.

09/988,343

Applicant(s)

SASAKI ET AL.

Examiner

William J. Klimowicz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 8, 10, 12, 14, 16 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 11, 13, 15 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 4, 2004 (paper No. 14, Amendment C) has been entered.

Claims Status

Claims 1-18 are currently pending.

Claims 8, 10, 12, 14, 16 and 17 are currently withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1-7, 9, 11, 13, 15 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 1 (lines 2-3 and 10-13), the scope of the claim is indefinite due to inconsistencies between what is respectively recited in the *preamble* and *body* of claim 1. More specifically, the preamble indicates that claim 1 is drawn to a “slider of a thin-film magnetic head” *per se*. In contrast, the body of claim 1 recites at least one element (i.e., a “recording medium”) which is extraneous to the slider of a thin-film magnetic head and positive structural relationships between the “slider of a thin-film magnetic head” and the “recording medium,” thereby indicating that the claims are drawn to the *combination* of the “slider of a thin-film magnetic head” *and* the “recording medium.” Such discrepancies prevent any reasonable determination of the scope of protection to be afforded by these claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

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evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoda (JP 08-045220 A).

As per claim 1, Yoda (JP 08-045220 A) discloses a slider (28) of a magnetic head comprising: a slider main body (28) having: a medium facing surface that faces toward a rotating recording medium (11); an air inflow end (31); and an air outflow end (33); and a magnetic head element (29) disposed near the air outflow end (33) and near the medium facing surface of the slider main body (28), wherein: the medium facing surface has: a first part (34) closer to the air outflow end (33); a second part (30 and 32) closer to the air inflow end (31); and a ridge line (*e.g., the ridge line formed at the intersection of surface (30) and surface (34) as is readily seen in, inter alia, FIGS. 3B and 7 of Yoda (JP 08-045220 A)*) formed by the intersection of the first part (34) and the second part (30 and 32), the second part (30 and 32) being slanted with respect to the first part (34), and the slider, *per se*, has the **capability** of performing the following function: i.e., while the recording medium is at rest, the slider main body can be made so as to be in contact with the surface of the recording medium at the ridge line, and the first part and the second part slant with respect to the surface of the recording medium so that the air outflow end and the air inflow end are made to be off the recording medium. This phrase has been treated as an "intended use" phrase, since the claim preamble dictates that the claim is drawn solely to a "slider of a thin-film magnetic head," *per se*. This intended use can be arrived at by merely

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bending another extraneous structure, such as spring elements (22) and/or (27) of Yoda (JP 08-045220 A) so as to allow only the positively recited slider ridge line at the intersection of (30) and (34) to tact extraneous element (11).

As per claim 2, wherein the second part (30 and 32) slants with respect to a surface of the recording medium (11) so that the air inflow end (31) gets farther from the recording medium (11) than the ridge line (30) does, while the recording medium (11) is rotating.

As per claim 3, the second part (30 and 32) and the surface of the recording medium (11) form an angle of no greater than 30° while the recording medium (11) is rotating. Note that the claims are drawn to the slider, *per se* (see preamble of claim 1) and that the angle of both (32) and (30) relative to (30) is at most 0.83° such that when the slider flies above a disc, at least during a portion of the flight, the angle between (32) as well as flat portion (30) and the disk (11) remains around 0.83° much less than the claimed 30° . Thus, since the claim is drawn to the slider *per se*, and the slider-disc relationship is met by Yoda (JP 08-045220 A) for at least a part of the slider flying duration, the claim is anticipated.

As per claim 4, the slider main body (28) is in contact with a surface of the recording medium (11) while the recording medium (11) is at rest, and stays away from the surface of the recording medium (11) while the recording medium (11) is rotating - FIGS. 2, 3B, etc.

As per claim 5, when the slider main body (28) comes into contact with the surface of the recording medium (11), the ridge line (e.g., the ridge line formed at the intersection of surface (30) and surface (34)) is the first to make contact with the surface of the recording medium (11) - due to the incline at the rear as seen in FIG. 2.

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As per claim 6, when the slider main body (28) takes off from the surface of the recording medium (11), the ridge line (e.g., the ridge line formed at the intersection of surface (30) and surface (34)) is the last to depart from the surface of the recording medium (11) - since it is the only part in contact with the disc (11) and the front end lifts first.

As per claim 7, the medium facing surface has a concavity/convexity (e.g., part (30) protrudes toward the disc surface (11) to form a convexity) for controlling orientation of the slider main body (28) during the rotation of the recording medium (11).

As per claim 9, wherein the first part (34) and the second part (32) form an angle of no greater than 30° . The angle of the first part (34) is 0.1° and that of the second part (32) is 0.83° .

As per claim 1, Yoda (JP 08-045220 A) does not expressly disclose wherein the head (29) is a thin-film magnetic head (and thus a thin film magnetic slider).

Official notice is taken that thin-film magnetic heads used in recording/reproducing apparatuses of the type disclosed by Yoda (JP 08-045220 A) are notoriously old and well known and ubiquitous in the art; such Officially noticed fact being capable of instant and unquestionable demonstration as being well-known.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the slider of Yoda (JP 08-045220 A) as being a thin-film magnetic head, as is known.

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide the slider of Yoda (JP 08-045220 A) as being a thin-film magnetic head, as is known, in order to provide a conventional thin-film magnetic slider with the advantages espoused by the

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slider structure of Yoda (JP 08-045220 A) (e.g., to prevent damage to the slider and improve reliability); additionally, it is well known that thin-film magnetic heads can be advantageously produced inexpensively in a batch-yield thin-film deposition process, thus increasing yield and reducing costs.

It is noted that Applicants have not traversed the Examiner's position regarding the Official notice's taken, *supra*, in preceding Office action(s). This is taken to be an admission of prior art by the Applicants. See MPEP § 2144.03 which states in part:

if applicant does not seasonably traverse the well known statement during examination, then the object of the well known statement is taken to be admitted prior art. *In re Chevenard*, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well known statement in the next reply after the Office action in which the well known statement was made. This is necessary because the examiner must be given the opportunity to provide evidence in the next Office action or explain why no evidence is required.

Claims 11, 13, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoda (JP 08-045220 A) in view of Applicants' admitted prior art (e.g., see page 1, line 12 through page 13, line 13 and FIGS. 34A-43 of Applicants' instant specification).

See the description of Yoda (JP 08-045220 A), *supra*.

Additionally, as per claim 18, Yoda (JP 08-045220 A) discloses wherein the length (LB) of a portion of the first part (34) in the direction of air passage, the portion belonging to a substrate portion, is equal to or less than 50% the length of the entire substrate portion (LA + (30) + LB) in the direction of air passage (FIG. 3A and 3B).

With regard to claim 11, Yoda (JP 08-045220 A) does not expressly disclose the

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structural characteristics of the slider detail, including wherein the slider main body includes: a substrate portion that has a surface facing toward the recording medium and makes a base of the thin-film magnetic head element; and an insulating portion that has a surface facing toward the recording medium and surrounds the thin-film magnetic head element.

With regard to claim 13, Yoda (JP 08-045220 A) does not expressly disclose the structural characteristics of the slider detail including wherein the slider main body further includes a protection layer that covers the surfaces of the substrate portion and the insulating portion facing toward the recording medium, wherein the protection layer is made of alumina or diamond-like carbon, as per claim 15.

Such slider structure and composition as set forth in claims 11, 13 and 15, however, are well known in the art, e.g., exemplified by the Applicants' admitted prior art.

More concretely, the Applicants' admitted prior art discloses a conventionally known slider wherein the slider main body includes: a substrate portion (101) that has a surface facing toward the recording medium and makes a base of a thin-film magnetic head element (122); and an insulating portion (127) that has a surface facing toward the recording medium and surrounds the thin-film magnetic head element (122) (as per claim 11); wherein the slider main body further includes a protection layer (128) that covers the surfaces of the substrate portion (101) and the insulating portion (127) facing toward a recording medium, wherein the protection layer (128) is made of alumina or diamond-like carbon, as per claim 15 (e.g., see Applicants' specification at page 8, lines 2-13).

It would have been obvious to one of ordinary skill in the art at the time the invention

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was made to provide the slider of Yoda (JP 08-045220 A) as including the base and insulating portions with a DLC protective coating, as is known in the art, exemplified by Applicants' admitted prior art.

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide the slider of Yoda (JP 08-045220 A) as including the base and insulating portions with a DLC protective coating, as is known in the art, exemplified by Applicants' admitted prior art, in order to provide a substrate that is easily processed with a protective insulating film covering the head and a protective film which minimizes wear to the slider-disc interface during start-up and powering down of a disc drive, as exemplified by Applicants' admitted prior art, as is well known in the art.

Response to Arguments

Applicants' arguments filed June 4, 2004 (Paper No. 10) have been fully considered but they are not persuasive.

The Applicants allege that Yoda (JP 08-045220 A) fails to disclose a ridge line formed by the intersection of the claimed first part and the claimed second part, wherein the second part is slanted against the first part, such that while the recording medium is at rest, the slider main body can be made so as to be in contact with the surface of the recording medium at the ridge line, and the first part and the second part slant with respect to the surface of the recording medium so that the air outflow end and the air inflow end are made to be off the recording medium.

As noted, *supra*, the Examiner maintains, assuming *arguendo* that this claim limitation

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does not fall prey to 35 USC 112 second paragraph, the phrase has been treated as an “intended use” phrase, since the claim preamble dictates that the claim is drawn solely to a “slider of a thin-film magnetic head,” *per se*. This intended use can be arrived at by merely bending another extraneous structure of Yoda (JP 08-045220 A), such as spring elements (22) or (27) of Yoda (JP 08-045220 A) so as to allow only the positively recited slider ridge line at the intersection of (30) and (34) to contact extraneous element (11).

Additionally, it is noted that the Applicants have not seasonably challenged the Examiner’s position regarding the use of Official notice as taken in the previous Office action (Paper No. 9) by requesting “a demand for evidence.”

As has been established in patent practice, as articulated in the MPEP § 2144.03:

If applicant does not seasonably traverse the well known statement during examination, then the object of the well known statement is taken to be admitted prior art. *In re Chevenard*, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well known statement in the next reply after the Office action in which the well known statement was made. This is necessary because the examiner must be given the opportunity to provide evidence in the next Office action or explain why no evidence is required. If the examiner adds a reference to the rejection in the next action after applicant’s rebuttal, the newly cited reference, if it is added merely as evidence of the prior well known statement, does not result in a new issue and thus the action can potentially be made final. If no amendments are made to the claims, the examiner must not rely on any other teachings in the reference if the rejection is made final.

Since the Applicants did not seasonably traverse the well known statement during examination, the object of the well known statement has been taken to be admitted prior art.

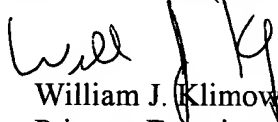
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (703) 305-3452. The examiner can normally be reached on Monday-Thursday (6:30AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William J. Klimowicz
Primary Examiner
Art Unit 2652

WJK